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25.04.2005

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY
EXAMINING AUTHORITY

(PCT Rule 66)

Date of mailing
(day/month/year)

22-04-2005

Applicant's or agent's file reference

BP108517/AS

REPLY DUE

within days from
the above date of mailing

International application No.

PCT/FI 2004/0050041

International filing date (day/month/year)

19.04.2004

Priority date (day/month/year)

17.04.2003

International Patent Classification (IPC) or both national classification and IPC

Applicant

1. ☒ The written opinion established by the International Searching Authority:
☒ is ☐ is not
considered to be a written opinion of the International Preliminary Examining Authority.
2. This second (first, etc.) opinion contains indications relating to the following items:
- ☒ Box No. I Basis of the opinion
 - ☐ Box No. II Priority
 - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Box No. IV Lack of unity of invention
 - ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Box No. VI Certain documents cited
 - ☐ Box No. VII Certain defects in the international application
 - ☐ Box No. VIII Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.
- When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).
- How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.
- Also** For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6. For an additional opportunity to submit amendments, see Rule 66.4.
- If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: 17.08.2005

Name and mailing address of the IPEA/SE

Patent- och registreringsverket

Box 5055

S-102 42 STOCKHOLM

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Authorized officer

Lars Wallentin/Els

Telephone No. 46 8 782 25 00

Form PCT/IPEA/408 (cover sheet) (January 2004)

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Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed.")*:
 - ☐ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1 - 12 _____ as originally filed/furnished
 - pages _____ received by this Authority on _____
 - pages _____ received by this Authority on _____
 - ☒ the claims:
 - pages _____ as originally filed/furnished
 - pages _____ as amended (together with any statement) under Article 19
 - pages 13 - 15 _____ received by this Authority on 15 - 02 - 2005
 - pages _____ received by this Authority on _____
 - ☒ the drawings:
 - pages 1 - 7 _____ as originally filed/furnished
 - pages _____ received by this Authority on _____
 - pages _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to the sequence listing (*specify*): _____

Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	_____
	Claims	_____
Inventive step (IS)	Claims	<u>1-26</u>
	Claims	_____
Industrial applicability (IA)	Claims	_____
	Claims	_____

2. Citations and explanations:

The invention relates to a porous sheet for treating exhaust gases in open channels. At least part of the porous sheet has a covering support with pores over 10 nm and particles over 1,4 μm . With open channels instead of closed channels the clogging is minimal.

The most relevant documents cited in the Search Report are:

D1: US4293447A1

D2: US2002/0141912A1

Document D1 is considered to disclose the most relevant prior art.

This document relates to a plate-shaped catalyst comprising a metal net, a finely divided porous carrier retained on the metal net with a binder and covering the metal net, and an active component supported on the carrier (see the abstract). The net may have openings about 10- to about 100 mesh. The porous carrier can be alumina, silica and zeolite (see column 2, line 51). In example 1 titania powder up to 44 μ in particle size is used on an 18 mesh metal net. A suggested corrugated catalyst with open channels is demonstrated in figure 3 and example 2.

It is considered to be obvious that the porous carrier in D1 has pores over 10 nm.

The invention according to claim 1 differs from D1 in that it is explicitly stated that the area mass of support is from 20 to 200 g/m² and the BET specific surface area of support is from 30 to 300 m²/g.

.../....

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: BOX V

The effects of these differences are not demonstrated in the description.

Therefore, the problem underlying the present invention can be seen as simply providing a support with a specific area mass of support and BET surface area.

Since in the absence of any surprising/advantageous effect of technical prejudice there is nothing inventive in the choice of area mass of support and surface area.

An argumentation about the differences and the problems they solve is desired. Further, an argumentation about why D1 do not disclose these specific areas is also wanted.

The same argumentation is applicable using D2, which discloses a catalyst supported on a porous mesh-like structure with open channels (see abstract and figure 2). The mesh-like material is comprised of fibres or wires (see paragraph 0042). A catalyst is supported on a particulate support that is supported on the mesh-like material. The average particle size of the particulate on which catalyst may be supported does not exceed 200 microns (see paragraph 0048). The mesh-like catalyst support is provided with corrugations to provide turbulence to create a desired pressure differential across the material to promote the flow of the fluid into the mesh pores and to the opposite side of the material (see paragraph 0049). The mesh-material that is coated has a pore size of no greater than about 50 microns (see paragraph 0074). Vertical orientation of the packing relative to the flow direction is desired to optimize the pressure drop (see paragraph 0090). See also the examples where platinum impregnated alumina is coated on a MEC structure. Catalysts of this kind can be used for the removal of combustion products of stationary diesel and gasoline engines (see paragraph 0004).

In claims 2-13 slight constructional changes in the sheet of claim 1 is defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 2-13 lacks an inventive step.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: Box V

Further, the metal substrate and the method according to claims 14-26 lack an inventive step. No actual difference between the sheet according to claim 1 and the substrate/method is present. Therefore the same statement about inventive step is valid also for these claims.